



PROCESS AND EXHAUST GAS CONTROL SOLUTIONS

Gas Turbine Exhaust Systems

SCR Damper Systems

FGD Damper Systems

Expansion Joints

Dampers





Innovation



Clyde Bergemann Bachmann, Inc. has earned a preeminent position in the competitive world market for dampers and expansion joints for:

- Gas Turbine Exhaust Systems
- SCR Bypass Systems
- FGD Bypass Systems
- Petrochemical and Industrial Process Systems

The Clyde Bergemann Bachmann team of dedicated engineers, designers, technicians, and craftsmen work closely with their customers to develop exceptional solutions to the most difficult challenges, whether technical or economic. This effort starts with the development of the initial design concepts, and continues through to the site erection assistance and commissioning of the supplied equipment.

The innovative approach by the Clyde Bergemann Bachmann team is exhibited by the number of revolutionary inventions and patents awarded to their engineers. This capability assures Clyde Bergemann Bachmann's clients will receive the most leading edge and reliable equipment appropriate for their applications.

No matter where your project is located Clyde Bergemann Bachmann can be of service to you. Currently there is equipment from Clyde Bergemann Bachmann operating on six of the seven continents of the world. No project is too distant for Clyde Bergemann Bachmann. Whether your project is in the power generation, petrochemical, or industrial field, you can be assured that Clyde Bergemann Bachmann will provide the quality and service that has become a worldwide trademark

Clyde Bergemann Bachmann is committed to providing the latest and most innovative technology to its customers. In order to ensure that this technology is sound, Clyde Bergemann Bachmann performs Finite Element Analysis (FEA) of its designs to ensure that they will meet or exceed customers expectations. Several examples of the analysis performed by Clyde Bergemann Bachmann can be seen below.



Gas Turbine Exhaust Systems. . .



Clyde Bergemann Bachmann Gas Turbine Exhaust Systems and components provide the customer with a complete package of equipment from the Gas Turbine exhaust flange to the HRSG inlet flange. Depending upon the client's specific requirement, the systems are supplied as entire units or as individual components. The list of components includes:

- Diffusers,
- Equalizers,
- Transitions,
- Diverters,
- Expansion Joints,
- Elbows,
- Blanking Guillotines and Plates,
- Duct Extensions,
- Bypass Stacks,
- Silencers,
- Stack Dampers,
- Louver Dampers,
- Flap Dampers,
- Guillotines.

No matter the size of the gas turbine, Clyde Bergemann Bachmann can provide the custom solution to your Gas Turbine Exhaust needs. We have provided equipment from the smallest to the largest gas turbines on the market today throughout the world.



Conversion of simple cycle elbow to fully functional diverter for an Alstom GT13E2 in Viet Nam



...and Components

Above: GT bypass system for a GE 9E GT in Argentina



Diverter for a Siemens SGT6 - 4000F GT in Peru



Convertible simple cycle exhaust stack in Venezuela



SCR (DeNO_x) Bypass Systems and Components



Clyde Bergemann Bachmann innovative, patented 4-port diverter system is an excellent solution for providing a SCR Bypass System. This system is comprised of a self-contained housing with an inlet port from the boiler, an SCR bypass port, SCR return port, and an exit port to the air heater. The 4-port diverter contains only two (2) single blade flap dampers. This diverter provides SCR online or bypass functions, with flow modulation and 100% isolation in the flap end positions. Since the flaps rotate out of the gas path there is reduced system pressure drop and abrasion to the equipment in comparison to louver dampers.

In addition to the 4-port diverter system, Clyde Bergemann Bachmann can offer flaps, louvers, and guillotines in their place. Each of these components are designed to stand up to the harsh environment of the SCR service.

Clyde Bergemann Bachmann offers a variety of solutions for FGD Bypass Louver Dampers and Guillotines. The dampers can be supplied in a variety of alloys and seal arrangements to meet any application.

Above: SCR Diverter (9 foot 6 inch wide by 66 foot 10 inch flap) with more than 20 workers standing on the flap. This diverter was later shipped and placed into service in the United States



SCR Louver Damper for the United States



FGD (DeSO_x) Bypass Systems

The innovative Clyde Bergemann Bachmann tandem seal design offers the best technical solution for FGD isolation at an economical price. The tandem seal design offers all of the advantages of the double louver damper but at a reduced initial cost, operating and maintenance cost.



FGD Double Louver Damper for Canada



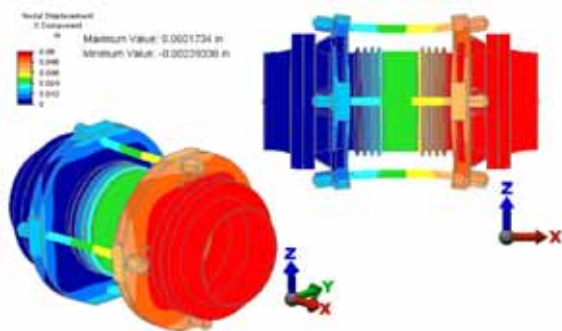
The Clyde Bergemann Bachmann FGD Tandem louver seal



Metallic Expansion Joints



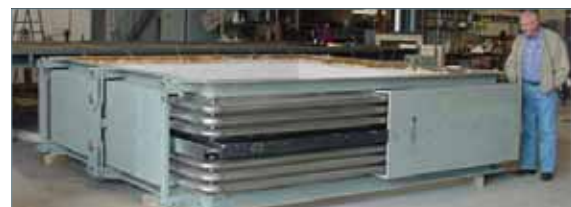
Clyde Bergemann Bachmann Metallic Expansion Joints are designed and manufactured in strict accordance with the EJMA Standards unless specified otherwise. From simple flue gas breaching arrangements to the highly engineered designs required for refinery FCCU service, Clyde Bergemann Bachmann has the experience and talent, and can provide solutions for the most difficult expansion joint problems.



FEA of 36 inch diameter Universal Expansion Joint



Ø36 inch diameter Universal expansion joint for a cycle gas service. Inco 600 redundant ply testable bellows with root rings. 422 psig at 302°F.



120 inch square hinged refractory lined universal expansion joint for a refinery. Inco 600 bellows with rounded corners. 2 psig at 1200°F.

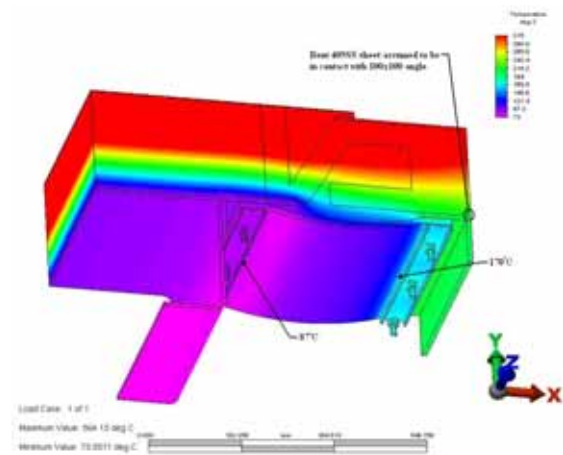


Fabric Expansion Joints

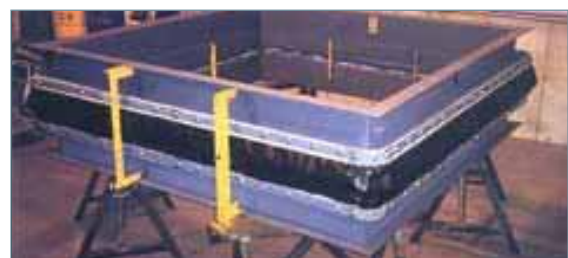
Clyde Bergemann Bachmann Fabric Expansion Joints are a proven solution for tough applications. Each flexible element (molded flanges, flat belt, or diaphragms) is designed for the specified temperature and chemical environment. Each metal frame design (hot frame, cold frame, telescoping liner) has specific longevity and application advantages. Let our experts properly guide you to the best solution.



Ø89 inch diameter Gas Turbine Exhaust Expansion Joint with Hot to Cold Frame. 25 in wc at 980°F.



Heat Transfer Analysis of Gas Turbine Cold-to-Cold Fabric Expansion Joint



8 foot square boiler flue gas expansion joint. 20 in wc at 800°F.



Dampers



Clyde Bergemann Bachmann provides professionally engineered, custom designed and manufactured dampers to Heavy- Industrial markets such as Pulp & Paper, mining, and Petrochemical-Chemical. Clyde Bergemann Bachmann, unlike many of our competitors, is a financially strong, responsive, service oriented company offering long term proven technology coupled with current, state of the art advances in design and production techniques. Many competitors offer only "standardized" cut-and-paste products whereas we can and will truly customize to your system design needs.



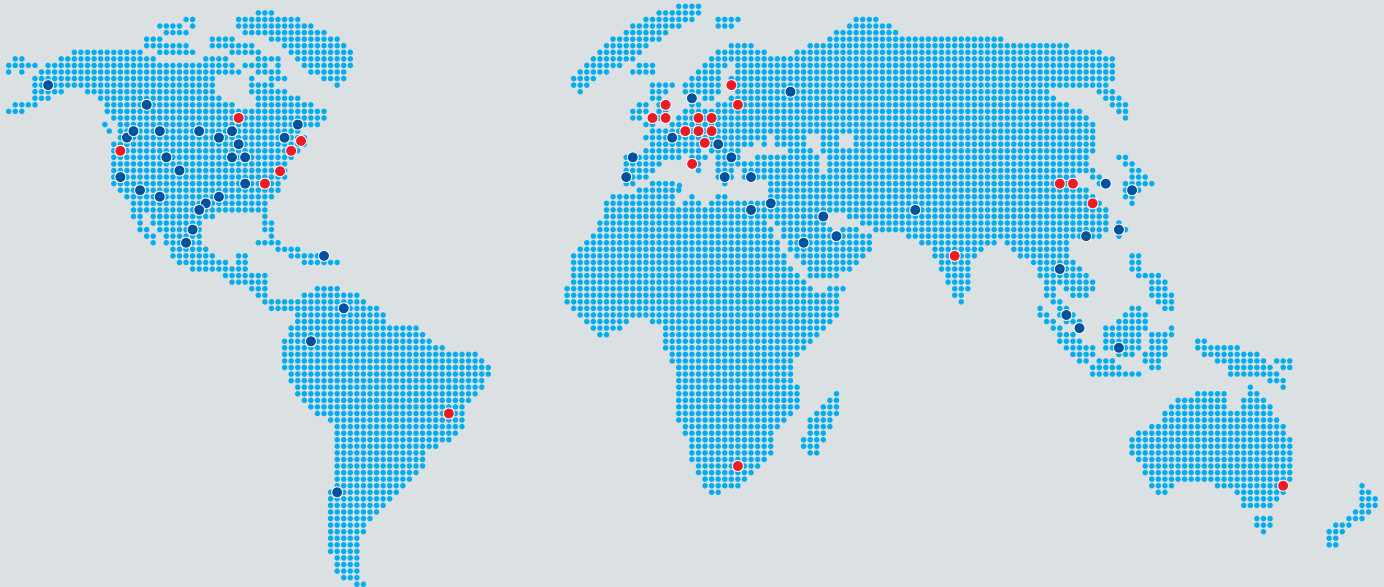


Technical Services & Plant Surveys

Professional Plant Surveys performing hands-on system walk-downs and evaluations of all types of power and industrial plants. Specialization in objective and unbiased surveys on combustion systems, exhaust duct systems and associated components. Typical surveys are:

- Technical Field Service Supervision and Assistance
- Problem Solving/Troubleshooting Surveys
- Specification Development
- Corrosion Surveys
- Efficiency Surveys
- Modernizing Review Surveys
- Maintenance Surveys
- Vendor Expediting Service
- General Plant Survey, General Condition of Plant

Clyde Bergemann is represented in over 40 countries worldwide.



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